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Correlates of online health information seeking behaviors in a low-income Hispanic community

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Abstract

There is a growing emphasis on health information technology to engage patients in their care, but disparities in access and utilization exist. Little is known about online health information seeking behaviors among certain populations, such as in low-income Hispanic communities.

Data were collected with a community survey from 1052 unique participants at ambulatory care clinics in a largely Hispanic immigrant community in northern Manhattan, New York. A descriptive correlational analysis was conducted using logistic regression.

A majority of the participants were born outside the United States (82.2%) and half (50.3%) had completed high school. A logistic regression revealed that five independent variables were significantly correlated with online health information seeking behaviors: age, education, marital status, primary language and health literacy. Age was negatively associated with online health information seeking (OR=0.94) whereas education, being born in the US and health literacy were all positively associated with online health information seeking (OR= 4.37, 2.21 and 1.25, respectively).

The findings have implications for designing online health information resources and interventions appropriate for the populations they are likely to reach. Furthermore, the findings highlight the need for special efforts to ensure access to reliable health information for immigrant populations and those with low health literacy.

Introduction

The Internet is an increasingly promising tool in assisting marginalized groups to obtain important health information and resources [1]. Eighty-one percent of adults in the United States use the internet regularly, and 72% of those look online for health information, according a recent Pew Research Center study [2]. Previous studies performed by the Pew Research Center have found that online health information-seekers report significant benefits

to their health and well-being. Online health information-seeking behaviors can help seekers with health-related decision making, help inform their conversations with their doctor or motivate them to seek a second opinion and change their behaviors and approaches to health care and maintenance [3-5]. Online health information-seeking is frequently used to fill an information gap around specific health issues or concerns and can enhance coping skills and self-efficacy [4, 5]. As the use of health information technology in health care expands, individuals will also be further exposed to health information. For example, as part of Meaningful Use, a Medicare and Medicaid EHR Incentive Program, individuals may receive electronic access to their health information, or be sent reminders electronically about preventive/follow up care [6].

Despite the apparent benefits of online health information seeking, certain populations are significantly less likely to make use of online health information. These include Hispanics, people with low educational attainment and people living in low-income households [2, 3, 7-9]. These populations are also frequently found to lack access to health care [10], further increasing their need for reliable health information.

While the internet is becoming an increasingly important source of health information, it comes with a certain paradox: online health information is free and available for all and yet it is out of reach for a large portion of the population [9], a phenomenon often referred to as the digital divide [11]. This is commonly due to disparities in physical access to information and communications technologies (ICT), such as an unstable internet connection or not having access to a computer, as well as usability issues such as not knowing how to use the internet or finding it too difficult to navigate [11]. In a national study conducted by the Pew Research Center [12], 20% of American adults who did not use the internet cited lack of access as their main reason and 32% cited various usability issues. A digital divide can also exist due to lack of necessary skills and knowledge to adequately use the acquired information [11, 13].

The digital divide is especially pronounced among Hispanics, particularly when it comes to online health information [9]. This may be influenced by various factors, such as socioeconomic status, language barriers, literacy or health literacy and cultural components, such as values, religion and health beliefs [2, 9, 14]. Particularly relevant are cultural values of *personalism*, referring to an emphasis on personal connections, and *confianza*, referring to the significance of trust and reciprocity (Pena-purcell, 2008; young 2001). These may be particularly influential when considering which source individuals prefer when seeking health information, as Hispanics with these values may prefer seeking information from friends, family or health care professionals over online sources that are impersonal in nature (pena-purcell, 2008; rooks, 2012). Additionally, the importance of family among Hispanics (*familismo*) may increase emphasis on a healthy family, thus making health information-seeking more family-focused. Therefore family factors, such as marital status, are important when considering online health information-seeking among Hispanics. Studies conducted in Hispanic populations in the United States have found an association between marital status and health-promoting behaviors (Hulme et al, 2003) and health outcomes (Schoenborn, 2004), but an association between marital status and online health information-seeking has not yet been reported.

Studies indicate that Hispanics are less likely than their non-Hispanic counterparts to go online to seek health information, diagnose a condition or discuss information acquired online with their doctor, [2, 9, 14]. However, they are as likely to believe that internet health information improves their understanding of medical conditions and treatments, increases their confidence to talk to doctors about health concerns, and helps get appropriate treatments they might not have otherwise sought out [14]. This suggests that Hispanics are as likely as other groups to perceive online health information-seeking as beneficial and useful, but further research is needed to identify the barriers they experience to online health information-seeking, and ways to overcome these barriers. Furthermore, the Hispanic population is diverse and composed of individuals of various cultures and national origins [15]. Vast differences may exist in the Internet and online health information-seeking behaviors of these various subpopulations, but the literature on these potential differences is scarce. Dominicans are one such subpopulation that is understudied in terms of health information-seeking behaviors. Dominican Americans are the fifth-largest Hispanic population in the United States, and around half of them reside in New York. Compared to other Hispanic populations in the United States, Dominicans have higher educational attainment, but are more likely to be foreign born and less likely to speak English proficiently, factors that may influence health information-seeking.

Gaining a better understanding of the profiles of those who seek online health information and those who do not, particularly in potentially underserved populations, is crucial for healthcare professionals to be able to guide patients toward appropriate health information and address gaps in access to health information. To that end, this study aimed to explore the correlates of online health seeking behaviors among Hispanic residents of a low-income urban neighborhood with many immigrants from the Dominican Republic, a population that is greatly understudied in terms of online health information seeking behaviors.

Methods

Overview

This study was conducted as part of the Washington Heights/Inwood Infrastructure for Community-centered Comparative Effectiveness Research (WICER) project. The WICER project's overarching goal is to understand the health of the Washington Heights/Inwood community in order to improve its health. One aspect of WICER is a community survey that was deployed in three settings: a community center; households and other locations in the community; and New York Presbyterian's Ambulatory Care Network (ACN) clinics. The present study analyzed data from the last setting.

The New York Presbyterian's ACN consists of various community health practices focused on providing affordable care in underserved communities in Manhattan, such as Washington Heights and Inwood. The residents of Washington Heights and Inwood are predominantly Hispanic, and about half of them were born outside the United States [15]. The percent of residents living below the poverty line in this area is higher than the New York City average, and educational attainment is lower. Furthermore residents of Washington Heights and Inwood are much more likely to be without a regular doctor, be uninsured, and consider themselves in fair or poor health compared to New York City overall [16].

Sample

A convenience sample of 1299 ACN patients were recruited in clinic waiting rooms to participate in the study between 2012 and 2013. All participants were required to satisfy the inclusion criteria of being over 18 years of age and fluent in either English or Spanish. Those who were unwilling or unable to give consent were excluded. Only those participants who identified as Hispanic were included in the analytical sample for this study.

Measures

All study procedures were approved by the Columbia University Institutional Review Board, and informed consent was obtained from each participant in English or Spanish, depending on their preference, prior to data collection. Data were collected with an interviewer-administered questionnaire. The questionnaire comprised standardized measures from multiple sources (e.g., The Behavioral Risk Factor Surveillance System (BRFSS) [17], The National Health and Nutrition Examination Survey (NHANES) [18], measures of adherence, control, self-efficacy, physical activity, Patient Reported Outcomes Measurement Information Systems' (PROMIS) measures on depression, anxiety, satisfaction with participation in social roles and on sleep quality [19]. In addition to the various measures of sociodemographic characteristics, health behaviors, health status, and health outcomes, the study assessed use of online health materials, health literacy, and shared decision-making preferences. Trained research staff administered the interviews, entering the data into an online survey application using an iPad tablet.

To measure online health information-seeking behaviors, participants were asked: "In the past 12 months, have you used the internet to look up health or medical information?" This survey item provided the dependent variable for this study. The survey questionnaire included an item on two dimensions of health literacy, understanding and processing of health information [20]. Three questions asked participants to evaluate their confidence filling out medical forms, how frequently they have problems learning about their medical condition because of difficulty understanding written medical information and how often they need help reading medical instructions, pamphlets or other written materials [21]. Each question was scored on a scale of zero to four, and mean score from the three questions calculated for each participant where zero signifies the lowest health literacy score and four the highest.

Data analysis

Data were analyzed using SPSS version 21. First, descriptive statistics were calculated for all variables of interest. Next, correlation analysis was conducted to examine bivariate associations between the variables and to check for multicollinearity. Variables to include in the regression model were then selected using a seven step method of purposeful selection, as proposed by Hosmer and Lemeshow [23]. Age, general health, education, marital status, primary language and health literacy were included in the model based on statistical significance. In addition, gender and race were included as controls based on conceptual importance. Using these nine covariates a logistic regression was performed.

Results

General

The analytic sample comprised of 1045 Hispanic participants who had responded to the question about online health information-seeking. Table 1 shows the general characteristics of the participants. The age of participants ranged from 18-91 and the mean age was 49.2 years (SD 16.6). A majority of the participants were female (84.5%). A large portion of the participants, 85.7%, were born outside of the United States, mainly in the Dominican Republic (86.2%). Among those born outside the United States, the average length of residency was 25.3 years (SD 13.9), but ranged from 0 to 70 years. In terms of race, 3.3% of the participants identified as black or African American and 4.5% as white. However, a majority (92.2%) identified as other race and when asked to specify further most identified their race as Hispanic. Just over half of the participants (50.3%) had graduated high school. The mean health literacy score based on the Chew measure [21] on a scale of zero to four was 2.31 (SD 1.01). Three hundred and thirty five participants (32.1%) reported seeking health or medical information online.

Regression analyses

Table 2 show results from the logistic regression conducted to assess the impact of the covariates on the likelihood that participants would report having gone online to look up health or medical information. The full model containing all 8 variables was statistically significant χ^2 (12, N=964)=393.911, $p<.001$, indicating that the model was able to distinguish between participants who reported and didn't report having gone online for health or medical information. The model as a whole explained between 33.5% (Cox & Snell R squared) and 46.9% (Nagelkerke R squared) of the variance in online health information seeking behaviors, and correctly classified 80.3% of cases. The Hosmer and Lemeshow Goodness of Fit test was non-significant, indicating that this model was a good fit for the data.

As shown in Table 2, five of the independent variables made a unique statistically significant contribution to the model (age, education, marital status, primary language and health literacy). Age was negatively associated with online health information seeking, with an odds ratio of 0.94 (95% CI: 0.92-0.95, $p<.001$). Education and health literacy using the Chew measure were positively associated with online health information seeking, with odds ratios of 4.28 (95% CI: 2.93-6.42, $p<.001$) and 1.28 (95% CI: 1.06-1.54, $p=.011$), respectively. Furthermore, Spanish as a primary language was negatively associated with online health information seeking, with an odds ratio of 0.50 (95% CI: 0.32-0.80, $p=.004$).

Discussion

The prevalence of online health information seeking behaviors was relatively low in this study. Only about a third of participants reported having gone online to look up health or medical information, which is lower than reported in national surveys [2]. This is consistent with the literature, given that the sample consisted largely of Hispanic people of low educational attainment, a population that has been found less likely to be online health

information seekers [2, 3, 9]. Additionally, the mean age in the sample was 49.2 years, (SD 16.6) and higher age has been reported to be associated with lower rates of online health information seeking [2, 11].

Consistent with previous studies, this study found that a higher education and younger age significantly predicted online health information seeking [2, 3, 9, 13]. The impact of marital status on online health information seeking is less clear. While the category of marital status was significantly associated with having gone online for health or medical information, none of the sub-categories were significant. The results seem to indicate that those who are single or widowed are less likely and those who are cohabiting or divorced are more likely to be online health information seekers, compared to those who are married, although the associations were not significant. To the author's knowledge, an association between marital status and online health information seeking has not been reported in previous studies although other studies have found an association between marital status and general health status, namely with poorer health among unmarried individuals compared to those who are married [26]. Furthermore, differences in health-promoting behaviors between married and unmarried individuals have been reported (Hulme, 2003).

Those who had Spanish as a primary language were significantly less likely to report having gone online to look for health or medical information than those who were not. This may indicate that acculturation plays a role in online health information seeking. Acculturation has been defined as a dynamic process of cultural learning where behaviors, language and attitudes change through prolonged and sustained interaction with a different cultural group [27]. Previous research has found significant difference in health information seeking behaviors and preferred sources between first and second generation immigrants [28]. Furthermore, the findings of this current study are consistent with findings in studies where acculturation was measured on the basis of primary language spoken in the home or in childhood [29, 30]. Health literacy based on the Chew measure [21], also had a strong positive correlation to online health information seeking. The association between health literacy and online health information seeking has been hypothesized in previous studies, but the evidence is scarce [9, 14]. However, this is not surprising given that a previous study found the average reading grade of online health information was 12.30 and sources were generally considered difficult to read, although some differences existed by topic [31].

These findings suggest that health professionals need to be aware of their patients' health literacy level when providing health information and health care, particularly in Hispanic immigrant populations and communities where educational attainment is low. Readability levels need to take into account the mean education and literacy levels, both general and health specific. In addition to establishing the cultural appropriateness and readability of English language online health information sources, future studies should examine the availability and accessibility of Spanish language sources of health information online. Finally, taking into account cultural values that emphasize trust, reciprocity and personal connections, online health information sources that incorporate some interaction with peers or health professionals, such as discussion forums or support groups, should be explored.

The findings of this study indicate that various factors may affect whether residents in Washington Heights and Inwood seek health information online or not. By being cognizant to some of these factors (such as health literacy, culture and language) when developing online health resources, online health seeking behaviors might increase in this community. Furthermore, some promising interventions have been developed to strengthen individuals in finding, assessing and utilizing online sources of health information [32, 33]. While the evidence of effectiveness is still preliminary, there is great potential to explore such interventions to empower low-income, low-education Hispanic populations to find reliable health information on the internet. Finally, while online health information can be improved to make it more readable, accessible and reliable and individuals can be taught the necessary skills to obtain the information through the internet, there will always be a certain part of the population that cannot be reached through online resources, for various reasons. Therefore, clinicians and health professionals need to make sure to tailor their modes of providing information to suit the needs of the intended audience.

Limitations

This study had several limitations. For instance, no additional methods of health information seeking were explored in this study. Those who reported not going online to look up health or medical information may have access to accurate health information through other sources, such as their health care provider. This is in line with the findings of Lee [8] who found that while the internet is an important source of health knowledge for those who are highly engaged with the internet in general, the association between health knowledge and the internet is much weaker for those who report less engagement with the internet in general. Even among those who do use the internet for health information, it is often used in combination with other sources of information, to varying degrees [34]. This was not captured in this study. Furthermore, this study did not assess the different devices used to access the internet and how that might affect the feasibility of searching for health information online. Some evidence indicated that Hispanic people are more likely to access the internet through smartphones and other mobile devices. Accessibility issues may be seen as barriers to exploring health information through mobile devices. Additionally, some individuals might have privacy concerns when looking up health information on their mobile devices. Finally, the frequency of online health information seeking or the motivation for seeking health information were not assessed. Some research has indicated that several factors influence the frequency of online health information seeking [35], so distinguishing between frequent and infrequent online health information seekers might have provided more nuanced findings, but this was outside the scope of this study.

Other limitations relate to the study sample. The proportion of females and older adults in our sample was high compared to the general population in Washington Heights and Inwood. Participants in the study were primarily Dominican, and generalizability to other Hispanic subgroups is unclear. The data were collected at ambulatory care clinics, which may explain at least in part the high proportion of females and the high mean and median age of the sample, as women and older adults are more likely to go to ambulatory care clinics, or any primary care facility, than men and younger adults [36]. Given these factors, it is clear that the sample is not representative for the general population, although it may be

representative of the users of ambulatory care clinics in Washington Heights and Inwood. However, while collecting the data at ambulatory care clinics can be considered a limitation affecting the generalizability of the study, it can also be considered a strength. As health information seeking is motivated by a health information need, frequently related to a health concern or a perceived health-threatening situation [37], lack of online health information seeking can often be explained simply with the lack of such a health concern. In this sample, however, we know that all participants sought care for a health issue or health related concern prior to participating in the survey.

Conclusion

This study in a largely Hispanic (Dominican) population confirmed several correlates of using the Internet to look up health information that had been identified in previous studies. This has implications for designing online health information resources and interventions appropriate for the populations they are most likely to reach. The findings, for example, suggest that online health information resources directed towards younger adults are more likely to reach their target population than resources directed towards older adults. Additionally, these findings highlight the importance of targeting health information resources based on education and health literacy levels. Furthermore, the results indicate that being born outside the US plays a role in online health information seeking. Special care may need to be taken to ensure that immigrant populations have access to reliable health information. As professionals, hospitals and clinical practices work to improve availability of health information technology to improve patient engagement and health, there is a need for further research to determine the facilitators and barriers to online health information seeking in the community, as well as exploring other venues of providing current and reliable health information for those populations less likely to access it online.

References

1. Cohall AT, Nye A, Moon-Howard J, Kukafka R, Dye B, Vaughan RD, et al. Computer use, internet access, and online health searching among Harlem adults. *Am J Health Promot.* 2011; 25(5):325–33. [PubMed: 21534835]
2. Fox, S.; Duggan, M. *Health Online 2013.* Washington, D.C: Pew Research Center; 2013.
3. Rice RE. Influences, Usage, and Outcomes of Internet Health Information Searching: Multivariate Results from the Pew Surveys. *International Journal of Medical Informatics.* 2006; 75:8–28. [PubMed: 16125453]
4. Iverson SA, Howard KB, Penney BK. Impact of internet use on health-related behaviors and the patient-physician relationship: a survey-based study and review. *J Am Osteopath Assoc.* 2008; 108(12):699–711. [PubMed: 19075034]
5. Morahan-Martin JM. How internet users find, evaluate, and use online health information: a cross-cultural review. *Cyberpsychol Behav.* 2004; 7(5):497–510. [PubMed: 15667044]
6. EHR Incentive Programs 2015 [updated 2015/02/13]. Available from: http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/index.html?redirect=/EHRIncentivePrograms/01_Overview.asp
7. Cotten SR, Gupta SS. Characteristics of online and offline health information seekers and factors that discriminate between them. *Soc Sci Med.* 2004; 59(9):1795–806. [PubMed: 15312915]
8. Lee C-J. The Role of Internet Engagement in the Health-Knowledge Gap. *Journal of Broadcasting & Electronic Media.* 2009; 53(3):365–82. [PubMed: 25530667]

9. Peña-Purcell N. Hispanics' use of Internet health information: an exploratory study. *J Med Libr Assoc.* 2008; 96(2):101–7. [PubMed: 18379664]
10. National Center for Health Statistics. *Health, United States, 2011: With Special Feature on Socioeconomic Status and Health.* Hyattsville, MD: U.S. Department of Health and Human Services; 2012.
11. Zickuhr, K.; Smith, A. *Digital Differences.* Washington, D.C: Pew Research Center; 2012.
12. Zickuhr, K. *Who's Not Online and Why.* Washington, D.C: Pew Research Center; 2013.
13. Cresci MK, Yarandi HN, Morrell RW. The Digital Divide and urban older adults. *Comput Inform Nurs.* 2010; 28(2):88–94. [PubMed: 20182159]
14. Rooks RN, Wiltshire JC, Elder K, BeLue R, Gary LC. Health information seeking and use outside of the medical encounter: is it associated with race and ethnicity? *Soc Sci Med.* 2012; 74(2):176–84. [PubMed: 22154611]
15. U. S. Census Bureau. *Profile America Facts for Features: Hispanic Heritage Month 2012: Sept 15-Oct 15.* US Census Bureau News; 2012.
16. Olson EC, Van Wye G, Kerker B, Thorpe L, Frieden TR. *NYC Community Health Profiles. Take Care Inwood and Washington Heights (Second edition).* 2006; 19(42):1–16.
17. Center for Disease Control and Prevention. *Behavioral Risk Factor Surveillance System Survey Questionnaire.* Atlanta, GA: U.S. Department of Health and Human Services, Center for Disease Control and Prevention; 2011.
18. Center for Disease Control and Prevention. *National Health and Nutrition Examination Survey Questionnaire (or Examination Protocol, or Laboratory Protocol).* Hyattsville, MD: U.S. Department of Health and Human Services, Center for Disease Control and Prevention; 2012.
19. Cella D, Riley W, Stone A, Rothrock N, Reeve B, Yount S, et al. The Patient-Reported Outcomes Measurement Information System (PROMIS) developed and tested its first wave of adult self-reported health outcome item banks: 2005–2008. *J Clin Epidemiol.* 2010; 63(11):1179–94. [PubMed: 20685078]
20. Sørensen K, Van den Broucke S, Fullam J, Doyle G, Pelikan J, Slonska Z, et al. Health literacy and public health: a systematic review and integration of definitions and models. *BMC Public Health.* 2012;12. [PubMed: 22221851]
21. Chew LD, Griffin JM, Partin MR, Noorbaloochi S, Grill JP, Snyder A, et al. Validation of Screening Questions for Limited Health Literacy in a Large VA Outpatient Population. *J Gen Intern Med.* 2008; 23(5):561–6. [PubMed: 18335281]
22. Weiss BD, Mays MZ, Martz W, Castro KM, DeWalt DA, Pignone MP, et al. Quick assessment of literacy in primary care: the newest vital sign. *Ann Fam Med.* 2005; 3(6):514–22. [PubMed: 16338915]
23. Hosmer, JDW.; Lemeshow, S.; Sturdivant, RX. *Applied Logistic Regression.* John Wiley & Sons, Inc.; 2013. *Model-Building Strategies and Methods for Logistic Regression;* p. 89-151.
24. Borrell LN. Racial Identity Among Hispanics: Implications for Health and Well-Being. *Am J Public Health.* 2005; 95(3):379–81. [PubMed: 15727961]
25. Compton, E.; B, M.; Ennis, S.; Rastogi, S. *2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment.* Washington, DC: U.S. Census Bureau; 2013.
26. Robards J, Evandrou M, Falkingham J, Vlachantoni A. Marital status, health and mortality. *Maturitas.* 2012; 73(4):295–9. [PubMed: 23007006]
27. McDermott-Levy R. Acculturation: A Concept Analysis for Immigrant Health. *Holistic Nursing Practice* 2009. 2009 Sep; 23(5):282–8.
28. Cristancho S, Peters K, Garces M. Health information preferences among Hispanic/Latino immigrants in the U.S. rural Midwest. *Global Health Promotion.* 2014; 21(1):40–9.
29. Roncancio AM, Berenson AB, Rahman M. Health locus of control, acculturation, and health-related Internet use among Latinas. *J Health Commun.* 2012; 17(6):631–40. [PubMed: 22211397]
30. Selsky C, Luta G, Noone A-M, Huerta EE, Mandelblatt JS. Internet access and online cancer information seeking among Latino immigrants from safety net clinics. *J Health Commun.* 2013; 18(1):58–70. [PubMed: 23066874]

31. McInnes N, Haglund BJA. Readability of online health information: implications for health literacy. *Inform Health Soc Care*. 2011; 36(4):173–89. [PubMed: 21332302]
32. Gray K, Elliott K, Wale J. A community education initiative to improve using online health information: participation and impact. *Inform Health Soc Care*. 2013; 38(3):171–81. [PubMed: 23324099]
33. Lee K, Hoti K, Hughes JD, Emmerton LM. Interventions to assist health consumers to find reliable online health information: a comprehensive review. *PLoS ONE*. 2014; 9(4)
34. Percheski C, Hargittai E. Health information-seeking in the digital age. *J Am Coll Health*. 2011; 59(5):379–86. [PubMed: 21500056]
35. Renahy E, Parizot I, Chauvin P. Determinants of the frequency of online health information seeking: results of a web-based survey conducted in France in 2007. *Inform Health Soc Care*. 2010; 35(1):25–39. [PubMed: 20302437]
36. Schiller, JS.; Lucas, JW.; Peregoy, JA. *Vital Health Statistics*. Vol. 10. National Center for Health Statistics; 2012. Summary Health statistics for U.S. adults: National Health Interview Survey, 2011.
37. Lambert SD, Loiselle CG. Health information seeking behavior. *Qual Health Res*. 2007; 17(8): 1006–19. [PubMed: 17928475]

Table I

Sociodemographic Characteristics of Participants

Characteristic	n (%) or Mean \pm SD			p-value
	All (N=1045)	Online health information seeking (N=335)	No online health information seeking (N=710)	
Age in years	49.2 \pm 16.6	37.1 \pm 13.0	55 \pm 15.0	.000
Gender				.003
Female	880 (84.5)	299 (89.3)	581 (82.2)	
Male	162 (15.5)	36 (10.7)	126 (17.8)	
Race				.437
White	45 (4.5)	18 (5.6)	27 (4.0)	
Black	33 (3.3)	9 (3.3)	24 (3.6)	
Other	918 (92.2)	293 (91.6)	625 (92.5)	
Marital status				.000
Married	315 (30.3)	85 (25.5)	230 (32.5)	
Cohabiting, but not married	75 (7.2)	43 (12.9)	32 (4.5)	
Single	228 (21.9)	115 (34.5)	113 (16)	
Divorced or separated	356 (34.2)	88 (26.4)	268 (37.9)	
Widowed	67 (6.4)	2 (0.6)	65 (9.2)	
Born outside the US	896 (85.7)	226 (67.7)	670 (94.4)	.000
Years in the US (among those born outside the US)	25.3 \pm 13.9	21.1 \pm 13.3	26.7 \pm 13.8	.000
Preferred language				.000
English	172 (16.5)	114 (34.0)	58 (8.2)	
Spanish	873 (83.5)	221 (66.0)	652 (91.8)	
High school diploma or more	526 (50.3)	274 (82.3)	248 (35.0)	.000
Health literacy (Chew)	2.31 \pm 1.01	2.70 \pm 1.00	2.1 \pm 1.00	.000
Health				.000
Poor or fair health	151 (14.5)	87 (26.2)	64 (9.1)	
Good health	891 (85.5)	245 (73.8)	642 (90.9)	

Note. N's range from 996 to 1052 due to missing data. Percentages reported are within groups with valid data.

Logistic Regression Model, the Impact of Predictor Variables on Online Health Information Seeking

Table II

Predictor	Odds ratio	95 % Confidence Interval	Wald	df	p-value	
Age	0.93	0.92	75.27	1	.000*	
Gender (ref: male)	1.39	0.82	2.36	1	.220	
Health (ref: good health)	1.37	0.86	2.19	1	.191	
Education (ref: no high school diploma)	4.28	2.93	6.42	1	.000*	
Race (ref: white)			2.05	2	.358	
Black	0.42	0.12	1.45	1	.170	
Other	0.62	0.28	1.38	1	.243	
Marital status (ref=married)			12.83	4	.012*	
Cohabiting, but not married	1.41	0.72	2.77	1	.313	
Single	0.69	0.41	1.15	2.02	1	.156
Divorced or separated	1.45	0.94	2.25	2.78	1	.095
Widowed	0.28	0.06	1.27	2.72	1	.099
Health literacy	1.28	1.06	1.54	6.52	1	.011*
Preferred language (ref: English)	0.50	0.32	0.80	8.52	1	.004*

Note. N=964 due to missing data.

* p < .05